

BERDO 101

Building Emissions Reduction and Disclosure Ordinance



Agenda

- **Why BERDO 2.0**
- **Overview of BERDO 2.0**
- **Regulations**
- **Reporting and Verification in 2022**
- **Next Steps**

TEAM MEMBERS



HANNAH PAYNE

*Carbon Neutrality
Program Manager*



AIDAN CALLAN

*Carbon Neutrality
Project Manager*



BRENDA PIKE

Climate Advisor



MAURA ZLODY

*Senior Environmental
Policy Analyst*

An aerial wireframe illustration of a cityscape, showing various building footprints and street layouts in a light blue color against a darker blue background. The perspective is from a high angle, looking down on the city.

WHY BERDO 2.0?

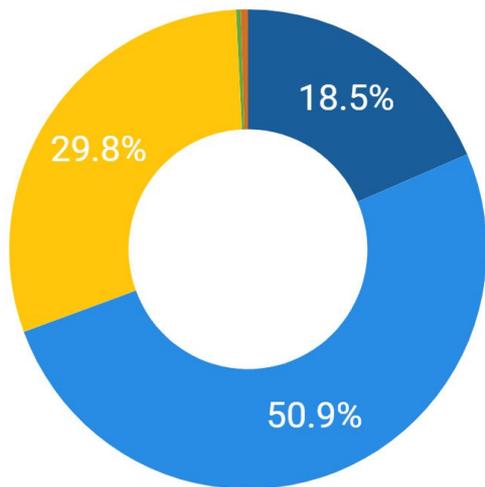


CITY OF BOSTON

BOSTON'S CARBON FOOTPRINT

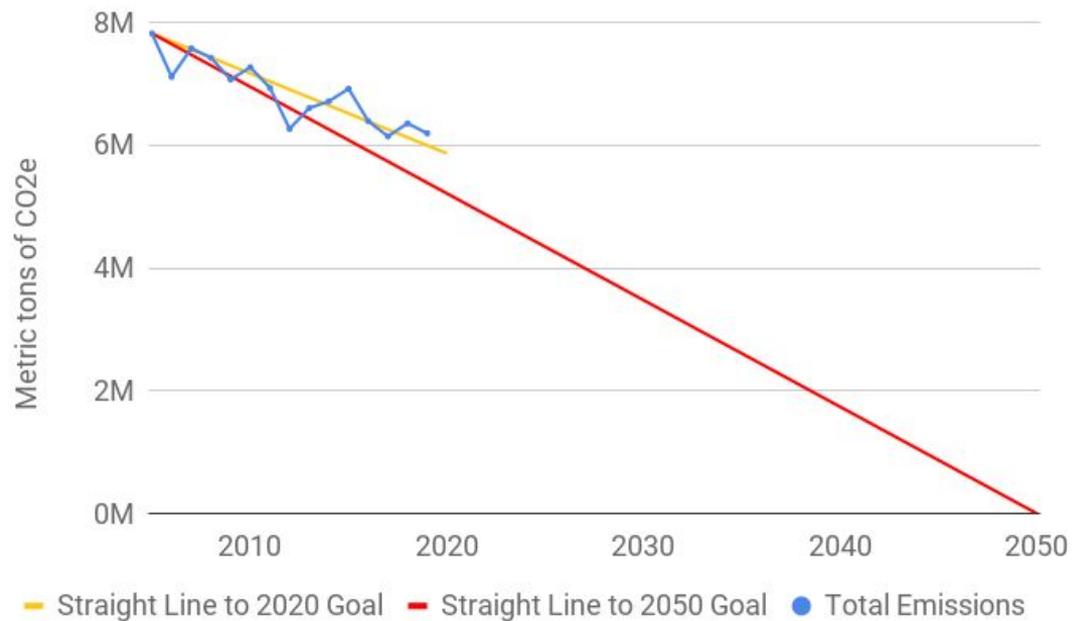


2019 EMISSIONS BY SECTOR



- Small Residential
- Commercial, Industrial, and Transportation
- Transportation
- Wastewater Treatment...
- Fugitive emissions

BOSTON COMMUNITY GREENHOUSE GAS EMISSIONS



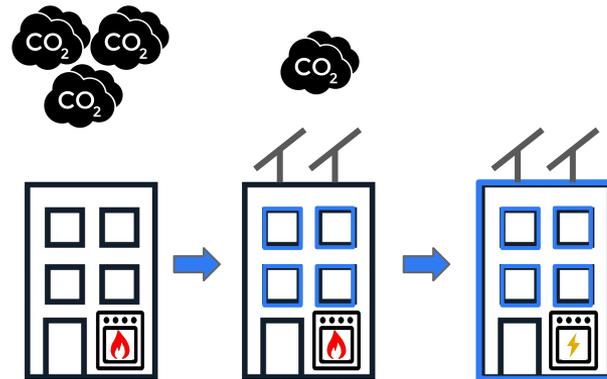
Creating a Building Performance Standard

Setting a pathway for building decarbonization

A building performance standard sets carbon targets for existing large buildings that decrease over time.

A performance standard:

- Directly targets our largest source of emissions
- Sets long planning horizons
- Provides flexibility in how buildings meet targets and when they make investments.



An aerial wireframe illustration of a city grid, showing various building footprints and street layouts in a light blue color against a darker blue background. The perspective is from a high angle, looking down on the city.

OVERVIEW OF BERDO 2.0

BERDO 2.0 Key Features

Building Emissions Reduction and Disclosure Ordinance

- **Annual energy and water use reporting continues**
 - *In 2022, Building Owners may apply for a one-time six-month extension on their reporting deadline.*
- **Buildings greater than 20,000 SF are now subject to BERDO**
 - *Buildings greater than 20,000 square feet or with 15 or more units are now required to meet the requirements under BERDO.*
- **Buildings have multiple pathways to meet emissions standards**
 - *Starting in 2025, buildings will need to meet declining emissions standards. Buildings can reduce their emissions by investing in energy efficiency and fuel switching, installing or purchasing renewable energy, and/or by making alternative compliance payments.*
- **BERDO will be overseen by a new Review Board**
 - *The Review Board will have oversight over BERDO including over a newly established Equitable Emissions Investment Fund, which will fund building emissions reduction projects that prioritize environmental justice.*

EMISSIONS STANDARDS

- Developed through the technical analysis process
- Based on existing buildings in Boston
- Aligned with citywide climate goals
- Multi-use buildings can adopt a blended emissions standard

Building use	Emissions standard (kgCO ₂ e/SF/yr.)					
	2025-2029	2030-2034	2035-2039	2040-2044	2045-2049	2050-
Assembly	7.8	4.6	3.3	2.1	1.1	0
College/ University	10.2	5.3	3.8	2.5	1.2	0
Education	3.9	2.4	1.8	1.2	0.6	0
Food Sales & Service	17.4	10.9	8.0	5.4	2.7	0
Healthcare	15.4	10.0	7.4	4.9	2.4	0
Lodging	5.8	3.7	2.7	1.8	0.9	0
Manufacturing/ Industrial	23.9	15.3	10.9	6.7	3.2	0
Multifamily housing	4.1	2.4	1.8	1.1	0.6	0
Office	5.3	3.2	2.4	1.6	0.8	0
Retail	7.1	3.4	2.4	1.5	0.7	0
Services	7.5	4.5	3.3	2.2	1.1	0
Storage	5.4	2.8	1.8	1.0	0.4	0
Technology/Science	19.2	11.1	7.8	5.1	2.5	0

FLEXIBILITY MEASURES

- **Portfolios:** owners with more than one covered building may apply to comply across their portfolio.
- **Individual compliance schedules:** buildings or portfolios may submit their own individual compliance plan for approval, which must be aligned with citywide emissions goals.
- **Hardship compliance plans:** buildings or portfolios with unique building characteristics or circumstances that present a hardship in complying with the standard (e.g., affordable housing refinancing timelines, historic designation, financial hardship, existing long-term energy contracts) would be eligible to apply for a hardship compliance plan.

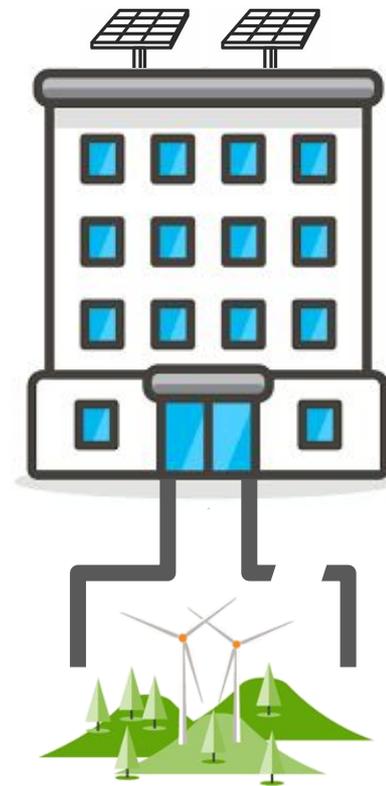
OPTIONS TO RETROFIT AND FUEL SWITCH

- Building owners may undertake measures to improve energy performance and reduce fossil fuel consumption within the building
 - *Envelope improvements*
 - *Appliance and mechanical upgrades and switches (heat pumps, solar, geothermal)*
 - *Building operations and controls*
- The City is expanding a [Retrofit Resource Hub](#) to connect building owners with appropriate technical assistance and financial resources.

OPTIONS TO PURCHASE RENEWABLE ELECTRICITY

Renewable energy can be used to reduce emissions from a building's electricity use.

1. Deploy renewable energy onsite;
2. Purchase renewable electricity that is generated offsite.
 - Boston community choice electricity (cityofbostoncce.com)
 - MA Class I Renewable Energy Certificates from non-emitting renewable sources
 - Power purchase agreements, including virtual PPAs, for RECs from non-emitting renewable sources



ALTERNATIVE COMPLIANCE PAYMENT



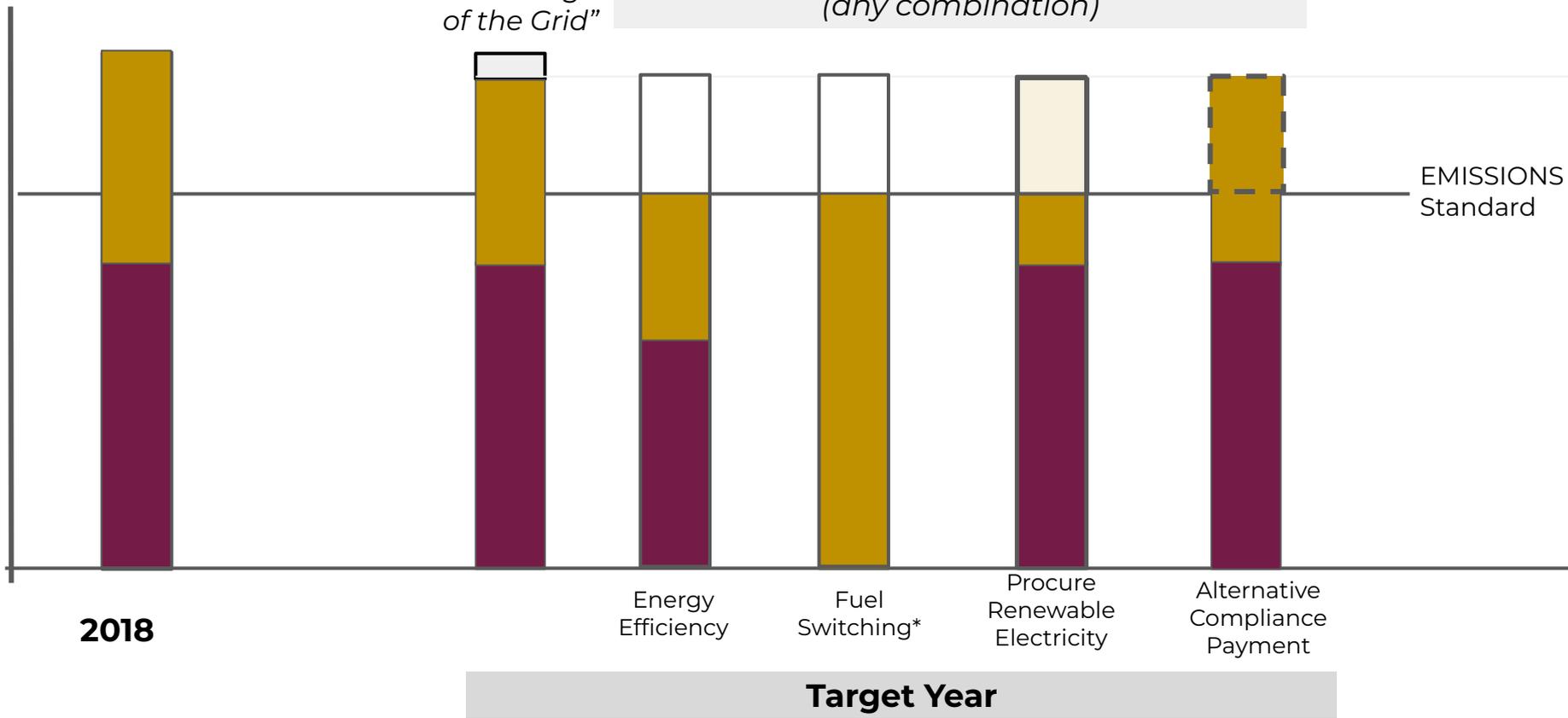
- Additional option to meet emissions standards
- Tied to average retrofit cost per metric ton of CO₂e, estimated at \$234/mtCO₂e
- Paid into a new Equitable Emissions Investment Fund



INDIVIDUAL BUILDING

"Greening of the Grid"

Options
(any combination)



EMISSIONS Standard

2018

Energy Efficiency

Fuel Switching*

Procure Renewable Electricity

Alternative Compliance Payment

Target Year

Electricity Natural Gas

* Fuel switching often best when combined with efficiency **For illustrative purposes only

EQUITABLE EMISSIONS INVESTMENT FUND

New fund dedicated to building emissions reduction projects that prioritize environmental justice populations and benefits including:

- Affordable housing preservation and rent stabilization
- Air quality improvements
- Training and access to green jobs for residents, women and people of color
- Clean energy deployment

Funds to be allocated by a newly created Review Board.

An aerial, wireframe-style illustration of a cityscape in shades of blue. The buildings are represented by white outlines, creating a complex, geometric pattern. The perspective is from a high angle, looking down on the city. A dark blue horizontal band runs across the middle of the image, containing the word 'REGULATIONS' in white, bold, sans-serif capital letters.

REGULATIONS

Regulations Process

Phased approach

- **Phase 1: December 2021 - March 2022**
 - Reporting and data verification requirements
 - Enable reporting and disclosure in 2022
- **Phase 2: Summer 2022**
 - Review Board regulations
- **Phase 3: Fall 2022**
 - Emissions Standards regulations (hardship compliance plans, individual compliance schedules, custom emissions factors, etc.)
 - Equitable Emissions Investment Fund regulations
 - Additional regulations as needed to implement and enforce the ordinance

Highlights from Phase 1 Regulations

- **Reporting Process**

- *Calculating Gross Floor Area*
- *Building Use Classifications*
- *Reporting vacant space*
- *Buildings without whole-building data*
- *Reporting new information*

- **Requesting and reporting information from tenants**

- **Requesting alternative reporting dates**

- **Special conditions**

- *Building that share systems*
- *Newly constructed buildings*
- *Change of ownership*

- **Third Party Verification**

- *Qualified Energy Professionals*
- *Correcting data*

- **Preservation of Records**

- **Disclosure of Records and Information**

Approved credentials for Qualified Energy Professionals

Must hold active credential and cannot be on the staff of Building Owner or building's management company

- Professional Engineer (PE)
- Licensed Architect
- Registered Architect (RA)
- Passive House
- Building Energy Assessment Professional (BEAP)
- Certified Energy Auditor (CEA)
- Building Energy Modeling Professional (BEMP)
- RPA/FMA High Performance Designation (RPA/FMA-HP)
- Certified Measurement and Verification Professional (CMVP)
- LEED Advanced Professional (AP) Building Operations & Maintenance
- Commissioning Process Management Professional Certification (CPMP)
- Certified Commissioning Professional (CCP)
- Associate Commissioning Professional (ACP)
- Certified Building Commissioning Professional (CBCP)
- Existing Building Commissioning Professional (EBCP)
- Certified Commissioning Authority (CxA)
- Operations and Performance Management Professional (OPMP)
- Certified Energy Manager (CEM)
- Energy Management Professional (EMP)
- Building Operator Certification (BOC) Level 2



REPORTING AND VERIFICATION IN 2022

Reporting steps in 2022

Reporting has changed to respond to new BERDO 2.0 requirements

1. ENERGY STAR PORTFOLIO MANAGER

The Environmental Protection Agency's (EPA) Energy Star Portfolio Manager (ESPM) is used for reporting key building characteristics and energy and water usage.

2. BERDO REPORTING FORM

A new requirement in 2022, this form captures data required for BERDO 2.0 that isn't included in ESPM.

3. THIRD PARTY DATA VERIFICATION

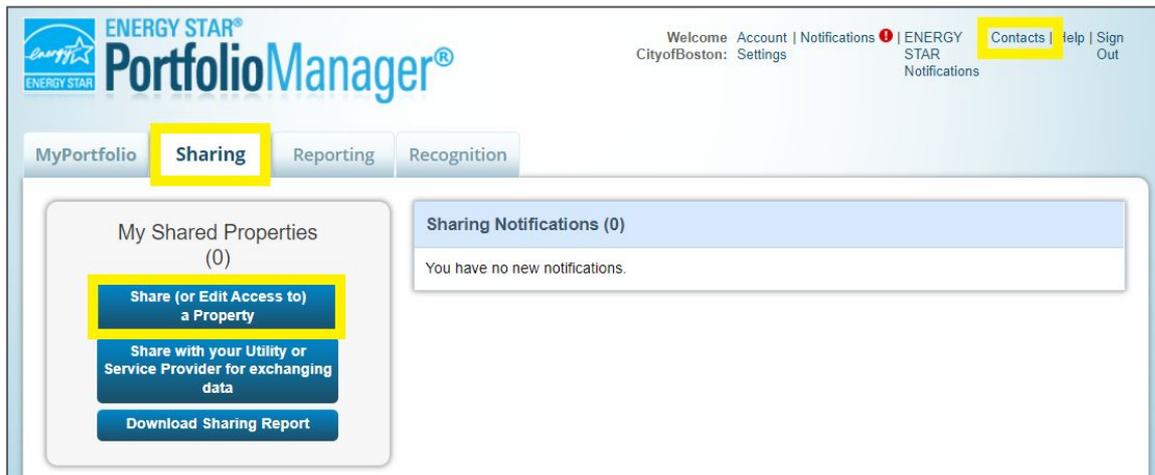
A Qualified Energy Professional must review and verify all calendar year 2021 data.

Key Changes to Reporting in 2022

Energy Star Portfolio Manager

- **Portfolio Manager Data Sharing**

- Connect buildings in Portfolio Manager with the City to share data directly
- Allows City to view data in real time to improve transparency and support
- No longer need to submit annual report via link



Key Changes to Reporting in 2022

BERDO Reporting Form

- **The BERDO Reporting Form will be used to:**
 - Claim your properties
 - Update contact information
 - Request extension
 - Submit additional information not collected through Portfolio Manager
 - Submit third party verification
- **One-time six-month extension available to all**
 - **June 15, 2022** reporting and verification deadline without extension
 - **December 15, 2022** reporting and verification deadline with extension



BERDO REPORTING FORM

My Properties

Claim Property

Logged in as **Alison Brizius** - [Account Settings](#) - [Log Out](#)

Claim Property

Use the [BERDO property viewer](#) to find your official parcel address, parcel ID, or BERDO ID. You can copy any of these into the search bar to pull up and claim your property.

search by keyword

Showing 1-1000 of 3980

1000 per page Page 1 of 4

Parcel ID <input type="text"/>	Parcel Address	# Buildings	BERDO ID(s)	Account Holder	Account Holder Email	Claim Property
0100412000	435 BENNINGTON ST 02128	1	104210			Claim
0100437000	150 WM F MCCLELLAN HW 02128	1	102577			Claim
0100438010	WM F MCCLELLAN HW 02128	1	103799			Claim
0100440010	605 CHELSEA ST 02128	1	100205			Claim
0100522000	415 WM F	1	104355			Claim



BERDO REPORTING FORM

My Properties

Claim Property

Logged in as **Alison Brizius** - [Account Settings](#) - [Log Out](#)

Claim Property

Use the [BERDO property viewer](#) to find your official parcel address, parcel ID, or BERDO ID. You can copy any of these into the search bar to pull up and claim your property.

3 Center Plaza

Search Here

1000 per page

Parcel ID <input type="button" value="v"/>	Parcel Address	# Buildings	BERDO ID(s)	Account Holder	Account Holder Email	Claim Property
0302713000	1 CENTER PZ 02108	1	105713			Claim

Click Here

Key Changes to Reporting in 2022

BERDO Reporting Form

My Properties

Click "Edit" to fill out the 2022 BERDO Reporting Form for each property.

Parcel ID	Parcel Address	2022 Report	Status	Last Updated	Due Date	Extension	Delete
0302615000	1 CITY HALL SQ 02114	Edit	Sent to verifier	03/30/2022	06/15/2022	Request	✕

- Extension requests will be automatically approved.
- You can confirm the extension request for your property has been processed by checking “Due Date” on the “My Properties” table. It should change from 6/15/2022 to 12/15/2022 to reflect the extension.

Key Changes to Reporting in 2022

Third Party Verification: Overview

- **Third Party Verification**
 - Required in 2022 for 2021 data
 - Necessary for compliance with future emissions standards
 - Must be completed by credentialed professional not on staff of building owner

Key Changes to Reporting in 2022

Third Party Verification: Summary of data to be verified

Required in 2022

1. Confirm square footage and allocation to appropriate building use is correct in Portfolio Manager
2. Confirm unit count is accurate in Portfolio Manager (*residential only*)
3. Confirm all energy usage is accounted for in Portfolio Manager
 - *All meters are reported and all delivered fuels are accounted for*
4. Verify all energy use is accurately reported

Optional for 2022*

1. Confirm eligibility of any RECs
2. Confirm eligibility of any PPAs
3. Confirm use of any backup generation to be exempt from emissions standards.
4. Confirm any EV charging station usage to station usage to be exempt from emissions standard.

**Note: Future regulations will specify what needs to be verified for compliance with emissions standards. We anticipate that at a minimum the four steps above will be required if they are used by a building.*

Reporting Tips

Visit boston.gov/berdo for detailed guidance

- **Review our updated How to Report Guide for 2022**
 - Many things have changed, so don't assume how you've reported in the past will work in 2022.
- **Find your properties on the covered building list**
 - If you have multiple buildings on one tax parcel, you will need to find each building and the corresponding BERDO ID.
- **Each building must be reported separately in Portfolio Manager**
 - You must enter a BERDO ID (new this year) into Portfolio Manager
 - Buildings with shared systems should report as a campus and follow requirements in regulations

Guidance Documents

BERDO | Building Emissions Reduction and Disclosure Ordinance

BERDO REPORTING HOW-TO GUIDE



A step-by-step guide to completing annual energy and water reporting and third-party data verification for BERDO in 2022.

Last Updated March 30, 2022

BERDO | Building Emissions Reduction and Disclosure Ordinance

Table of Contents

INTRODUCTION	3
WHICH BUILDINGS ARE COVERED?	3
WHO'S RESPONSIBLE?	4
WHAT YOU WILL NEED TO REPORT	4
TASK 1: FIND YOUR PARCEL ID, BERDO ID, AND BUILDING ADDRESS	5
TASK 2: REQUEST AN EXTENSION (optional)	6
WHAT IS THE REPORTING AND VERIFICATION DEADLINE?	6
STEP 1 - GO TO THE BERDO REPORTING FORM	6
STEP 2 - CREATING A USERNAME	6
STEP 3 - CLAIMING YOUR PROPERTIES	6
STEP 4 - REQUEST AN EXTENSION FOR YOUR PROPERTIES	7
TASK 3: REPORT DATA THROUGH PORTFOLIO MANAGER	8
STEP 1 - COLLECT ENERGY AND WATER DATA	8
STEP 2 - CREATING A PORTFOLIO MANAGER ACCOUNT	10
STEP 3 - ADD YOUR PROPERTY TO PORTFOLIO MANAGER	10
STEP 4 - ENTER PROPERTY DETAILS	11
STEP 5 - DEFINE METERS WITH CORRECT UNITS	13
STEP 6 - ENTER YOUR MONTHLY UTILITY DATA	14
STEP 7 - RUN A DATA QUALITY CHECK	15
STEP 8 - ENTER ANY CONTEXTUAL INFORMATION	15
STEP 9 - UPDATE YOUR NEW BOSTON BERDO ID	16
STEP 10 - VERIFY YOUR DATA THROUGH A THIRD-PARTY	16
STEP 11 - CONNECT AND SHARE YOUR DATA WITH THE CITY	17
TASK 4: REPORT SUPPLEMENTAL DATA THROUGH BERDO REPORTING FORM	20
STEP 1 - CREATING A USERNAME	20
STEP 2 - CLAIMING YOUR PROPERTIES	20
STEP 3 - COMPLETE A REPORT FOR EACH PARCEL	21
STEP 4 - SUBMIT YOUR DATA TO YOUR THIRD-PARTY VERIFIER	21
TASK 5: THIRD-PARTY DATA VERIFICATION	23
THIRD-PARTY VERIFICATION SCHEDULE	23
CONNECT WITH A QUALIFIED ENERGY PROFESSIONAL FOR THIRD-PARTY VERIFICATION	24
STEP-BY-STEP VERIFICATION INSTRUCTIONS FOR BUILDING OWNERS	25

Covered Building List

Properties Required to Report by June 15, 2022

In 2022, the following buildings are required to report: non-residential buildings over 20,000 sq. ft., residential buildings with 15 or more units, and any parcel with multiple buildings that add up to 20,000 sq. ft. or 15 units. This list identifies all properties required to report, including those that began reporting in previous years. This is a draft list subject to removals and additions based on additional information. Exclusion from this draft list does not necessarily mean that a building is not required to report. If you believe your building is on this list by mistake - such as being too small to be covered or may qualify for an exception due to construction work - contact the City at: energyreporting@boston.gov

Parcel ID	Parcel Address	Parcel Owner	Street Address	BERDO ID	Zip Code	Link to Property Assessment Map
303060001	160 170 N WASHINGTON ST	1 LOVEJOY WHARF BOSTON REALTY LLC		100001	02114	https://app01.cityofboston.gov/AssessingMap/?find=303060001
304794000	24 2 TEMPLE PL	10 TEMPLE PLACE LP	2-24 Temple Pl	100002	02111	https://app01.cityofboston.gov/AssessingMap/?find=304794000
602757045	20 30 CHANNEL CENTER ST	10-20 CHANNEL CENTER	20 Channel Center St	100003	02127	https://app01.cityofboston.gov/AssessingMap/?find=602757045
602757045	20 30 CHANNEL CENTER ST	10-20 CHANNEL CENTER	24-38 Channel Center St	100004	02127	https://app01.cityofboston.gov/AssessingMap/?find=602757045
304718000	12 PROVINCE ST	10-24 SCHOOL STREET	24 School St	100005	02108	https://app01.cityofboston.gov/AssessingMap/?find=304718000
601192000	100 A ST	100 A STREET CONDOMINIUM TRUST	100 A St	100006	02127	https://app01.cityofboston.gov/AssessingMap/?find=601192000
304408000	100 HIGH ST	100 HIGH OWNER LLC	100 High St	100007	02110	https://app01.cityofboston.gov/AssessingMap/?find=304408000
602671039	90 110 NORTHERN AV	100 NORTHERN AVENUE LLC		100008	02210	https://app01.cityofboston.gov/AssessingMap/?find=602671039
304220000	100 SUMMER ST	100 SUMMER OWNER LLC	100 Summer St	100009	02110	https://app01.cityofboston.gov/AssessingMap/?find=304220000
304220000	100 SUMMER ST	100 SUMMER OWNER LLC	100 Summer St #1401	100010	02110	https://app01.cityofboston.gov/AssessingMap/?find=304220000

An aerial, wireframe-style illustration of a cityscape, rendered in a light blue color against a darker blue background. The buildings are represented as 3D rectangular blocks of varying heights and orientations, creating a complex urban grid. The perspective is from a high angle, looking down on the city.

Next Steps and Support

We are here to help

Please reach out with questions and ideas

- **Webinar Series**

- Multifamily Electrification
- BERDO 101 Webinar today and again in May
- How to Report through Portfolio Manager
- Mass Save - Multifamily and Commercial Offerings

- **Help Desk & Office Hours**

- Continued building owner support through energyreporting@boston.gov

- **Retrofit Resource Hub**

- [Retrofit Resource Hub](#) with technical and financial resources to help you plan for energy and efficiency retrofits.

- **BERDO Email Newsletter**

We want to hear from you

How can we help you with reporting and planning to meet emissions standards?

- **What would be helpful?**
 - Consultations
 - Additional webinars
 - Engaging specific audiences
 - Other
- **Request for Information for third-party verification services - soon**
- **Regulations Phases II & III**
 - Launching Phase II public process soon



Upcoming Webinars

- **Mass Save Commercial Programs**
 - *Tues., April 12 @ 3:00 pm*
- **Mass Save Multifamily Programs**
 - *Tues., April 26 @ 2:00 pm*
- **How to Report for BERDO through Energy Star Portfolio Manager**
 - *Mon., May 2 @ 4:00 pm*
- **BERDO 2.0 101**
 - *Tues., May 24 @ 4:00 pm*

Visit the [Retrofit Resource Hub](#) to register and find out about future webinars.



**VISIT
BOSTON.GOV/BERDO
FOR MORE
INFORMATION**

THANK YOU

